

# Notice of Allowability

Application No.

09/634,992

Examiner

Michelle Nguyen

Applicant(s)

IMURA, KENJI

Art Unit

2851

## -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to Amendment filed 02 July 2003.
2. ☒ The allowed claim(s) is/are 1-28.
3. ☒ The drawings filed on 08 August 2000 are accepted by the Examiner.
4. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☒ All    b) ☐ Some\*    c) ☐ None    of the:
    1. ☒ Certified copies of the priority documents have been received.
    2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).
  - \* Certified copies not received: \_\_\_\_\_.
5. ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
  - (a) ☐ The translation of the foreign language provisional application has been received.
6. ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application. **THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

7. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
8. ☐ CORRECTED DRAWINGS must be submitted.
  - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
    - 1) ☐ hereto or 2) ☐ to Paper No. \_\_\_\_\_.
  - (b) ☐ including changes required by the proposed drawing correction filed \_\_\_\_\_, which has been approved by the Examiner.
  - (c) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No. \_\_\_\_\_.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet.

9. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

### Attachment(s)

- |  |   |
|--|---|
| 1 <input type="checkbox"/> Notice of References Cited (PTO-892)  | 2 <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)          |
| 3 <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                    | 4 <input type="checkbox"/> Interview Summary (PTO-413), Paper No. _____.            |
| 5 <input type="checkbox"/> Information Disclosure Statements (PTO-1449), Paper No. _____.              | 6 <input checked="" type="checkbox"/> Examiner's Amendment/Comment                  |
| 7 <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit of Biological Material | 8 <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance |
|  | 9 <input type="checkbox"/> Other _____.   |

## **DETAILED ACTION**

### ***Examiner's Amendment***

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

The application has been amended as follows:

- (a) In claim 10, line 10, "the specified direction" has been changed to --a specified direction--.
- (b) In claim 10, line 14, "a specified direction" has been changed to --the specified direction--.

### ***Allowable Subject Matter***

- 2. Claims 1-28 are allowed.
- 3. The following is an examiner's statement of reasons for allowance:

With regard to claim 1, the prior art does not teach in combination with all other limitations recited in the claim a first calculator for calculating reflection characteristic measurement values in correspondence with a plurality of illuminators, a storage device for storing an approximate function having an angle of an illuminating direction with respect to a reference direction as a variable in a condition that a direction symmetrical with a specified direction with respect to a center axis of a main body in parallel to a normal to an opening of the main body is defined as the reference direction, and having a plurality of undetermined coefficients including an angle of inclination of the center

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axis of the main body with respect to a normal to the surface of an object, and a second calculator for determining the undetermined coefficients and correcting the respective reflection characteristic measurement values using the approximate function whose undetermined coefficients are determined as set forth in the claim.

Claims 2-9 include all limitations set forth in claim 1.

With regard to claim 10, the prior art does not teach in combination with all other limitations recited in the claim a plurality of illuminators in a condition that a direction symmetrical with a specified direction with respect to a center axis of a main body in parallel to a normal to an opening of the main body is defined as a reference direction, first and second illuminators being provided in positions symmetrical with each other with respect to the reference direction, a light detector for detecting reflected light in the specified direction, and a calculator for calculating a reflection characteristic of an object corresponding to the first illuminator based on a sum of light detection signals corresponding to the first and second illuminators as set forth in the claim.

Claims 11-15 include all limitations set forth in claim 10.

With regard to claim 16, the prior art does not teach in combination with all other limitations recited in the claim a first calculator for calculating reflection characteristic measurement values in correspondence with a plurality of light detectors, a storage device for storing an approximate function having an angle of a light detecting direction with respect to a reference direction as a variable in a condition that a direction symmetrical with a specified direction with respect to a center axis of a main body in parallel to a normal to an opening of the main body is defined as the reference direction,

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and having a plurality of undetermined coefficients including an angle of inclination of the center axis of the main body with respect to a normal to the surface of an object, and a second calculator for determining the undetermined coefficients and correcting the respective reflection characteristic measurement values using the approximate function whose undetermined coefficients are determined as set forth in the claim.

Claims 17-24 include all limitations set forth in the claim 16.

With regard to claim 25, the prior art does not teach in combination with all other limitations recited in the claim a plurality of light detectors in a condition that a direction symmetrical with a specified direction with respect to a center axis of a main body in parallel to a normal to an opening of the main body is defined as a reference direction, first and second light detectors being provided in positions symmetrical with each other with respect to the reference direction, an illuminator for illuminating an object in the specified direction, and a calculator for calculating a reflection characteristic of the object corresponding to the first light detector based on a sum of light detection signals corresponding to the first and second light detectors as set forth in the claim.

Claims 26-28 include all limitations set forth in claim 25.

4. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

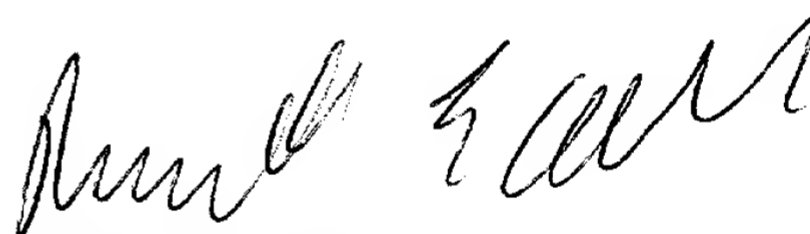
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5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michelle Nguyen whose telephone number is 703-305-2771. The examiner can normally be reached on M-F 8:30am-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Russ Adams can be reached on 703-308-2847. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9318 for regular communications and 703-872-9319 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-4900.

mpn  
August 4, 2003

  
RUSSELL ADAMS  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2800